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EXAMINER
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KRUEER, KEVIN R

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1773

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GROUP 1700

**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 09/851,460  
Filing Date: May 08, 2001  
Appellant(s): REINERS ET AL.

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William Schwarze  
For Appellants

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed February 22, 2005.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is incorrect. A correct statement of the status of the claims is as follows:

Claims 1-11, 13, 14, 18, and 19 are rejected

Claims 12, 15-17 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

**(4) Status of Amendments After Final**

No amendment after final has been filed.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be reviewed on Appeal**

The appellants' statement of the grounds of rejection is substantially correct. The changes are as follows:

Art Unit: 1773

Claims 1-4, 6, 7, 10, 11, 18 and 19 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 4,526,823 of Farrell et al. in view of U.S. Patent 4,578,296 of Miyazaki et al. ("Miyazaki").

Claim 5 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Farrell in view of Miyazaki, as applied above, and further in view of U.S. Patent 5,635,011 of Rosen ("Rosen").

Claim 5 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Farrell in view of Miyazaki, as applied above, and further in view of U.S. Patent 5,108,844 of Blemberg et al. ("Blemberg").

Claims 1, 2, 4, 6-11, 13, 14, 18 and 19 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,449,552 of Bochow in view of U.S. Patent 4,567,089 of Hattori et al. ("Hattori").

#### **(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

#### **(8) Evidence Relied Upon**

4,526,823	Farrell et al	7-1985
4,578,296	Miyazaki et al	3-1986
5,635,011	Rosen	6-1997
5,108,844	Blemberg et al	4-1992
5,449,552	Bochow et al	9-1995
4,567,089	Hattori et al	1-1986

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

1. Claims 1-4, 6, 7, 10, and 11 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Farrell et al. (US 4,526,823) in view of Miyazaki et al (US 4,578,296).

Farrell teaches a plastic laminate sheet that comprises an outer layer of filled-plastic, an inner layer of HDPE (herein relied upon to read on the claimed "sealing layer"), and an ethylene vinyl alcohol (EVOH) barrier layer (col 4, lines 43-44) interposed between the inner and outer layers (abstract). The EVOH barrier layer adheres to the inner and outer layers by an adhesive selected from the group consisting of copolymers of olefins and acid and copolymers of ethylene and vinyl ester (col 4, lines 46-55). The outer layer has a thickness of 3-7mils (col 4, lines 60-66) and consists of propylene homopolymers or polypropylene/HDPE blends (col 3, lines 30-40). Farrell blends 5 to about 80 percent by weight filler into the outer layer (col 3, lines 55-61). The filler may be selected from the group consisting of calcium carbonate, talc, and mica (col 3, lines 35-40). The laminate may be thermoformed (see Pat. No. 3,260,777; incorporated by reference).

Farrell teaches the thickness of each layer is not critical but does not teach the claimed filled layer: unfilled layers thickness ratio. However, Miyazaki teaches a thermoformed laminate comprising a filled polyolefin resin composing and an unfilled layer(s) (abstract and col 7, lines 33+). Miyazaki teaches that the thickness ratio of the filled layer to unfilled layer is preferably 98:2 to 70:30 in order to assure that the laminate maintains the appearance of paper (col 8, lines 5+). Furthermore, the ratio is

Art Unit: 1773

required to obtain a laminate with the touch and feel of paper (col 6, lines 20+). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to vary the thickness ratio of the filled layer to the unfilled layers in order to obtain the appearance and touch/feel characteristics of paper.

2. Claim 5 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Farrell et al. (US 4,526,823) in view of Miyazaki et al (US 4,578,296), as applied above, and further in view of Rosen (Pat. No. 5,635,011).

Farrell in view of Miyazaki is relied upon as above. None of the references teach that the matrix polymer may be adhered without an adhesive to a layer comprising a blend of the matrix polymer with EVOH or PA. However, Rosen teaches that it is known in the art to blend a matrix resin with a barrier layer in order to eliminate an adhesive layer between two layers of a laminate (col 2, line 54-col 3, line 3). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a blend of matrix polymer with EVOH or PA as the barrier layer of the laminates taught in Farrell in view of Hattori. The motivation for doing so would have been that it is well known in the art that barrier layers comprising such blends adhere directly to layers of the matrix polymer, thus eliminating the need for an adhesive layer.

3. Claim 5 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Farrell et al. (US 4,526,823) in view of Miyazaki et al (US 4,578,296) as applied above, and further in view of Blemburg et al. (US 5,108,844).

Farrell in view of Miyazaki is relied upon as above, but none of the references teach that the matrix polymer may be adhered without an adhesive to a layer

Art Unit: 1773

comprising a blend of the matrix polymer with EVOH or PA. However, Blemberg teaches that two layers may be adhered together by blending some of each composition into the adjacent layer (col 2, lines 25-31). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a blend of matrix polymer with EVOH or PA as the barrier layer of the laminates taught in Farrell in view of Hattori. The motivation for doing so would have been because Blemburg teaches that two layers can be adhered together without the use of a tie/adhesive layer by blending some of each composition into the adjacent layer.

4. Claims 1, 2, 4, 6-11, 13, and 14 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Bochow et al. (US 5,449,552) in view of Hattori et al (US 4,567,089).

Bochow teaches a multilayer, thermoformable, composite film consisting of the following layers: a surface layer, an adhesive layer which is optional, a gas barrier layer, second adhesive layer which is also optional, and a heat sealable layer (abstract). The surface layer comprises a polypropylene matrix resin and filler (col 1, lines 60+). The barrier layer comprises polyamide, polyvinyl alcohol, ethylene vinyl alcohol, or polyesters (col 2, lines 3-12). The heat sealing layer comprises a polyolefin or amorphous polyester (col 2, lines 14 and 15) such as LLDPE, polybutylene, EVA, ethylene-carboxylic acid copolymers, and mixtures thereof. The adhesives may be identical or unique (see the examples). The individual layers have the following thicknesses: surface layer (25-75 microns), barrier layer (10-30 microns), and heat sealable layer (15-150 microns). The examiner notes that these ranges overlap

Appellants' claimed ranges (ratios). Therefore, Bochow renders obvious the claimed ratios.

Bochow teaches use of a polypropylene base film comprising filler, but does not teach how much filler should be added to the film. However, Hattori teaches a thermoformable laminate comprising a filled polypropylene layer (abstract). The filler should comprise 5-60% of the layer and be selected from the group consisting of calcium carbonate, silica, talc, clay, mica, titanium dioxide, barium sulfate, and glass fiber (col 4, lines 12-19). If the amount of filler is less than 5 parts by weight, the heat resistance, stiffness, and dimensional stability of the thermoformed product is insufficient. Thus, the examiner takes the position that it would have been obvious to one of ordinary skill in the art at the time the invention was made to add 5-50 parts by weight filler to the propylene layer taught in Bochow. The motivation for doing so would have been to improve the laminate's heat resistance, stiffness, and dimensional stability.

With respect to claims 13 and 14, Bochow does not teach that the laminate may be formed on an FFS machine. However, the courts hold that processing limitations do not patentably distinguish a claimed product from a similar product in the prior art unless appellants shows that the processing limitations inherently result in a materially different product. Appellants have failed to meet such a burden. Therefore, the examiner takes the position that the laminate taught by Bochow is identical to the claimed laminate formed on an FFS machine.

#### **(10) Response to Argument**

Appellants argue that the properties of the claimed multilayer films should be discussed with particular reference to form-fill-seal machines on which they are



Art Unit: 1773

thermoformed. Appellants arguments are noted, but the examiner notes that the features upon which appellants rely (i.e., thermoforming of the multilayer film on a form-fill-seal machine) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Since the claims read on any multi-layer film meeting the claimed limitations and are not limited to films thermoformed on a form-fill-seal (FFS) machine, the examiner disagrees with Appellants' position that discussing the claims with reference to a FFS embodiment is a fair interpretation of the invention.

Appellants argue that such multi-layer films formed on FFS machine desirably have a number of properties including the following:

- (i) The paper-like appearance should be maintained after thermoforming;
- (ii) Thermoforming should be possible within a broad temperature range;
- (iii) Processing should be possible at a high packaging speed,
- (iv) Printing should be easy with high precision and adhesion; and
- (v) The surface of the film should allow piling-up of many packages during storage.

Appellants' arguments are noted. However, the claims are not limited in any way with regard to properties (i)-(v). Said properties, therefore, fail to distinguish the claimed multi-layer film from those taught in the prior art.

Appellants further argue said properties distinguish the claimed invention from the prior art because the claimed multi-layer film has "unexpected results" with regard to properties (i)-(v) as demonstrated by the data in Table I on page 8 of the Appeal Brief. The examiner disagrees that the claimed films possess "unexpected results" with regard

to properties (i)-(v). The following is a discussion of the data in Table 1 as it relates to each property.

With regard to the paper like appearance of the film, Appellants argue that when the ratio falls below 1:1.2, the film looks like plastic. To support said position, Appellants compare examples 1, 2, 1b, IIa, IIb-IIe to examples C-2, IIIb, and IIIc. Said argument has been fully considered. However, the examiner notes that the test to determine the “appearance” of the film is subjective and there is no standard one of ordinary skill in the art could use to determine if a film had a “paper-like” appearance. The examiner also notes Miyazaki teaches the appearance of a multi-layer film is a result effective variable that can be altered by varying the relative thickness of filled to unfilled layers. The results in Table 1 are, therefore, not unexpected. The examiner further notes that more than one variable is changed in each of the examples. Thus, it is impossible to determine if a distinction that might exist between the inventive examples and comparative examples is a result of the claimed thickness ratio.

With regard to the thermoformability of the claimed multi-layer film, Appellants argue that the thermoformability of the film is hindered if the thickness ratio is outside of the claimed range. In support of said conclusion, Appellants compare inventive examples 1, 2, 1a, 1b, and IIa-IIc to comparative examples C-1, II-a, IIIa, and IIIb. Appellants’ arguments are not persuasive because the data fails to demonstrate the described relationship between thermoformability and the claimed thickness ratio. Specifically, the examiner notes that more than one variable is changed in each of the examples. Therefore, it is impossible to determine if a distinction that might exist

between the inventive examples and comparative examples is a result of the claimed thickness ratio.

With regard to the packaging speed of the claimed multi-layer film, Appellants the data in Table I demonstrates that lower packaging speeds are obtained when the claimed thickness ratio is above 1:8. In support of said argument, Appellants compare inventive examples Ia, Ib to comparative examples C-1 and II-a. Appellants' arguments are not persuasive because the data fails to demonstrate the described relationship between packaging speed and the claimed thickness ratio. More than one variable is changed in each of the examples. Therefore, it is impossible to determine if a distinction that might exist between the inventive examples and comparative examples is a result of the claimed thickness ratio.

Appellants make similar arguments with regard to criticality of the claimed thickness ratio as it relates to the printability and the stackability of the claimed multi-layer film. The data is not persuasive in all cases because more than one variable is changed in each of the examples. It is, therefore, impossible to determine if a distinction that might exist between the inventive examples and comparative examples is a result of the claimed thickness ratio.

***Examiner's response to the arguments in subheading (A)***

With regard to the rejection of claims 1-4, 6, 7, 10, 11, 18 and 19 under 35 U.S.C. 103(a) as being unpatentable over Farrell in view of Miyazaki, Appellants argue Farrell does not teach the claimed thickness ratio. The examiner concedes that Farrell does not teach the claimed thickness ratio, but notes that Farrell was never relied upon in the

rejection to teach said limitation. The rejection relied upon Miyazaki for motivation to vary the thickness of the filled and unfilled layers of Farrell. In response to appellants' arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Appellants further argue that the examiner ignores properties (i)-(v). In response to appellants' argument that the references fail to show certain features of appellants' invention, it is noted that the features upon which appellants relies (i.e., properties (i)-(v)) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The examiner further notes that Appellants have failed to show that the claimed multi-layer film possesses unexpected results with regards to properties (i)-(v).

Farrell in view of Miyazaki fails to render the claimed multi-layer film obvious, according to appellants, because neither reference teaches the claimed sealing layer. The examiner respectfully disagrees with appellants analysis of the Farrell reference. Farrell teaches the laminate comprises an outer ethylene film. The specification teaches that ethylene polymers are used as the sealing layer (page 4, lines 23+ of the specification). The HDPE taught in Farrell is, therefore, understood to read on the claimed sealing layer.

With regard to Miyazaki, Appellants argue that the thickness ratio of Miyazaki is drawn to a two-layer film (col 8, lines 9-17) and is not a relevant to the claimed 3-layer film. The examiner respectfully disagrees. Miyazaki teaches that the paper-like appearance of a multi-layer film is a result-effective variable, which can be optimized by varying the thickness of an inorganic filled portion of the film relative to the thickness of an unfilled portion of the film. Miyazaki teaches the unfilled portion should not be so thick as to diminish the high quality impression (col 8, lines 10+) of the multi-layer film. "High quality impression" is herein understood to refer to the paper-like opacity and gloss of the film. The examiner finds support for said interpretation in column 2, lines 14+ wherein it is stated that products "produced by thermoforming....are relatively low in whiteness, and because of their characteristic luster, inevitably give a strong impression that they are made of synthetic resin...that is to say, such {products} do not give a high quality impression as in paper {products}." Miyazaki implies from said teachings that an unfilled portion comprising two films with a thickness  $x$  is equally as useful as one film with thickness  $2x$  in that each would be expected by one of ordinary skill in the art to result in a film with the same gloss and opaqueness. Thus, the number of layers that comprise the unfilled portion of the multi-layer film is inconsequential so long as the relative thickness of the unfilled portion of the film is relatively thin in comparison to the filled portion of the film as to allow the multi-layer film to have a paper-like appearance. This conclusion is supported by the disclosure of Miyazaki, which teaches additional unfilled layers may be present in the multi-layer film (col 7, lines 33+).

Appellants further argue that there is no hint in Miyazaki that the thickness ratio influences processability on FFS machines. The examiner concedes Miyazaki is silent to the influence of the thickness ratio on the processability on FFS machines, but notes Appellants' arguments do not agree in scope with the present invention. The claims are not limited to multi-layer films processed on FFS machines. Furthermore, there is no evidence of record that demonstrates the claimed multi-layer film has the unexpected property of being processable on FFS machines.

***Response to Arguments in subheading (B)***

With respect to Farrell in view of Miyazaki and Rosen, Appellants argue Rosen does not make up for the deficiencies of Farrell and Miyazaki. Since Farrell in view of Miyazaki is maintained, Farrell in view of Miyazaki and Rosen is maintained.

***Response to Arguments in subheadings (C) and (D)***

Appellants' arguments with regard to Schirmer in view of Miyazaki are sufficient to overcome said rejection.

***Response to Arguments in subheading (E)***

With regard to Bochow in view of Hattori, Appellants argue that Bochow does not teach the filler layer should comprise 40-75wt% filler. The examiner concedes that Bochow does not teach the claimed amount of filler, but notes the rejection never relied upon Bochow for such a teaching. Hattori was relied upon to motivate one of ordinary skill in the art at the time the invention was made to optimize the amount of filler in the filler layer taught in Bochow. In response to appellants' arguments against the references individually, one cannot show nonobviousness by attacking references

individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Appellants further argue that the rejection does not take into account FFS properties or printing properties. Appellants' attention is directed to the examiner's comments above with regard to the attempted showing of unexpected results.

According to Appellants, Bochow provides not guidance with regard to adjust the thickness ratio of the filled to unfilled layer. The examiner agrees but notes that the thickness ranges taught in Bochow overlap the claimed range and that said range is taught with sufficient specificity to anticipate the claimed ratio.

The films taught in Hattori are not comparable to the inventive films, according to Appellants, because both layers of the film comprise filler. Appellants further argues the films of Bochow and Hattori are not analogous because they have structure and the film of Hattori does not contain a sealing layer. In response to appellants' arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Hattori was not relied upon to teach the claimed laminate. Rather, Hattori was relied upon to motivate one of ordinary skill in the art to modify the film of Bochow. The examiner maintains the position that Hattori is analogous art because it is in the same field of endeavor: filled films.

For the above reasons, it is believed that the rejections should be sustained.

Art Unit: 1773

Respectfully submitted,



Kevin R. Kruer-Patent Examiner, Art Unit 1773

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